

ROBOTIC PERSONHOOD AND ITS POTENTIAL IMPACT TO DEMOCRACY

Should artificial intelligence be citizens and vested with right to vote?¹

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Abstract:

After having provided a brief analysis of the potential legal personality and citizenship of robots, and a case from the relevant practice, I put forward a five-level system to classify artificial intelligences, and with the help of this framework, we could conceptualize, which requirements should be fulfilled by robots to participate at the elections. Apart from this, those main concerns are outlined, which should be treated before allowing to any artificial intelligence to practice right to vote.

Keywords: artificial intelligence, voting rights, democracy, law and technology, citizenship, legal personhood, robot

¹ This study forms part of project no. 128796, funded by the Hungarian Innovation, Research and Development Authority, which analyses the content of the principle of democracy from the perspective of constitutional and European Union Law.

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Introduction

In 2017, it generated considerable resound from the public opinion, that a female robot, which was called Sophia was granted citizenship in Saudi Arabia. This was the first occasion that an artificial intelligence has been vested by the ordinary citizenship of a state, therefore, a number of issues have been raised.

The possible extension of traditional concept of citizenship to the electronic humanoids has been proposed several times.³ For instance, in 2015, the Legal Commission of the European Parliament recommended to provide legal status for a wide range of autonomous artificial intelligences, who might be the subject of rights and duties.⁴ This kind of legal recognition is often considered as the first step towards robot citizenship.⁵

In the light of these developments, it would be an important question to analyse, how the citizenship law shall reflect to these new challenges, which might be caused by the extensive, and dubious

³ Madeleine de COCK BUNING (et al.): “Mapping the legal and normative framework for the sustainable development of autonomous intelligent systems in society” in Sam MULLER (et al.) (eds.): *The law of the future and the future of law. Volume II.* (The Hague: Torkel Opsahl Academic Publisher 2012) 195–210.

⁴www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML%2BCOMPACT%2BTITLE%2BPDF%2BV0//EN

⁵ Ludvig BECKMAN: „Personhood and legal status: reflections on the democratic rights of corporations” *Netherlands Journal of Legal Philosophy* 2018 (47) 1. 13–28.

interpretation of citizenship. Nevertheless, this paper would step further, and I would conceptualize, how electronic humanoids, as citizens could participate especially at the political life. This issue has been examined several times; however, we are really far from elaborating on at least viable solutions, as this is usually treated as the issue of the distant future. My contribution would highlight some theoretical and practical considerations in this field, as the case of Sophia shows clearly the urgency of real legal answers to the recent challenges of modern technology and also the updated interpretation of the principle of democracy.

If we accept, that at least certain robots shall amount to equal citizenship as the human beings, these electronic persons might be subject to identical rights and undertakings, as traditional citizens. On the one hand, this new category of personhoods might influence the political process, and might also reveal new opportunities to strengthen participatory democracy, however; on the other hand, the political activity of electronic humanoids shall be regulated carefully to avoid unforeseeable risk factors. According to several contributions, the participation of electronic humanoids in the political life would be risky due to the insufficient regulation, therefore; the legal framework shall be updated notably to diminish the expected uncertainty.⁶ My aim would be to assess, whether the current legal framework could be adapted to these new challenges properly, and to add some new arguments in this regard.

My assessment would be based on four strands of literature, which have been rarely used by this integrated manner. Firstly, the traditional literature of citizenship was kept as a background of the analysis.

⁶ www.forbes.com/sites/zarastone/2017/11/07/everything-you-need-to-know-about-sophia-the-worlds-first-robot-citizen/#960668b46fa1

Secondly, numerous authors were cited, who provide a deeper understanding from the impact of artificial intelligence to our life, our society, and to our legal system. Thirdly, the potential political participation of robots and the possible reconsideration of the electoral law were discussed on the basis of the relevant academic contributions. Fourthly, a great number of press announcements meant also primary sources, as the latest development, especially the case of Sophia has been discussed by such texts, only a very few academic reaction has been published from this subject during the last three years.

I. Legal personality of electronic humanoids

As the basis of the concerned issue, it shall be analysed in depth, whether current robots might amount to legal personality, as citizenship might be awarded only to such independent entities, which are recognized legally,⁷ and according to the European Parliament, which could be subject to rights and duties.⁸ Furthermore, according to the current dogmatic setting right to vote could be awarded only to entities with legal personhood and citizenship.⁹ Therefore, in case of political rights of robots, the first main question is, whether they could exercise the same rights, and undertake identical obligations, as natural human beings.

⁷ Michael BLAKE: „Immigration and Political Equality” *San Diego Law Review* 45 2008. 963–979.

⁸ Erica PALMERINI (et al.): „Robot law: towards a European framework for robotics regulation” *Robotics and Autonomous Systems* 86 2016/9. 12–24.

⁹ David J. CALVERLEY: „Imagining a non-biological machine as a legal person” *AI & Society* 2007 (22) 4. 523–537.

Although the fact, that some experts support the idea of extended circle of citizenship,¹⁰ my answer would be negative, at least at the current stage of scientific development. However, as robots mean new sets of intelligence, and an updated legal framework is required for these new and inherently diverse forms of entities.¹¹ My approach is grounded on three main arguments, which concern the whole functioning of a robot.

Firstly, the electronic humanoid is created artificially by technological instruments instead of biological ones, and it is activated, and also switched off by other people. As a consequence, although the fact, that certain autonomous decisions might be made by the robot independently from its creators or developers,¹² the personal characteristics, the mental capacity and the independent margin of decision of the electronic humanoid are determined consciously within the current technological opportunities essentially by its software, so by those persons, who have established it.¹³

Secondly, the robots shall not be vested with legal personality as an analogy of legal entities. Any legal entity is launched by natural persons to cooperate with each other, and to represent certain interests together. In case of electronic humanoids, it might be (but not always) merely similar, that these intelligences are elaborated by people for

¹⁰ Gary COMSTOCK: *Do machines have prima facie duties? In Machine Medical Ethics* (London: Springer 2015) 79–92.

¹¹ Bernhard J. MITTERAUER: „Robots with consciousness: creating a third nature” *International Journal of Machine Consciousness* 2012 (5) 2. 179–193.

¹² Cristina LAFONTE: „Should We Take the “Human” out of Human Rights? Human Dignity in a Corporate World” *Ethics and International Affairs* 2016/30. 233–252, esp. 241.

¹³ Gesa LINDEMANN: „Social interaction with robots: three questions” *AI & Society* 2016 (31) 4. 573–577.

servicing their interests, but these entities are able to make their own autonomous decisions, which are not necessarily in conformity with the will or the alleged interests of the makers.¹⁴ Robots are developed by people, but their regular activity could be conducted in certain cases completely independently from the human actors. Consequently, the paradoxical situation is, that the abilities of the robots are usually determined by people, and they are often established for the promotion of certain human interests, but there are no always exact human will behind their particular decisions. So the case of electronic humanoids shall be distinguished clearly from the traditional concept of legal entities.¹⁵ As a consequence, robots should not have legal status, as certain corporations have, especially in some common law countries,¹⁶ or the legal status of certain rivers and ships are also not proper analogues.¹⁷

And the third point especially came from this distinction: robots are such entities with a certain level of intelligence, which have some exclusively human characteristics: they are able to speak, to participate at bilateral human communication, to make conscious decisions on

¹⁴ Eric SCHWITZGEBEL – Mara GARZA: “A defense of the rights of artificial intelligences” *Midwest Studies in Philosophy* 2016 (39) 1. 98–119.

¹⁵ Jeremy MOON – Andrew CRANE – Dirk MATTEN: „Can Corporations be Citizens? Corporate Citizenship as a Metaphor for Business Participation in Society” *Business Ethics Quarterly* 2011/15. 429–453, esp. 436.

¹⁶ Jonathan MARCANTEL: „The Corporations as a Real Constitutional Person” *UC Davis Business Law Journal* 2010/11. 221–265.

¹⁷ Erin O'DONNELL – Julia TALBOT-JONES: „Creating legal rights for rivers: Lessons from Australia, New Zealand, and India” *Ecology and Society* 2018 (23) 1. www.ecologyandsociety.org/vol23/iss1/art7/

those matters, which are relevant only for the people.¹⁸ Nevertheless, the robots has remarkably different physical circumstances, needs and priorities, than ordinary people, therefore, the situation of these two kinds of entities are not comparable, and are not analogical.¹⁹ The most advanced electronic humanoids could fulfil certain requirements, which have not met earlier by any other non-human entity, however, their physical and mental structure remain inherently different, and a great number of human concept are not interpretable in case of artificial intelligences.

As a consequence, I argue against the extension of legal personhood and citizenship to robots, however, in the light of the business-oriented character of the Sophia case, we shall count with the growing number of robot personhoods and citizens in the future, therefore, it is urgent to create a coherent legal framework as regard the political participation of electronic humanoids. First of all, those criterion shall be provided, which should be fulfilled by each electronic entity to be subject to any legally enforceable right or duty, especially right to vote. Moreover, the exact rights and duties of robots shall be outlined in this regard, especially the level of autonomy, and the technical background, which is required to secure their fair and effective political participation.

II. The case of Sophia

The idea of legal personality for electronic humanoids might be seemingly extravagant and futuristic at the moment, but this is not the case, and this issue has been even discussed at the end of the previous

¹⁸ Joanna J. BRISON: „Robots should be slaves” in Jorick WILS (ed.): *Close engagements with artificial companions: key social, psychological, ethical and design issues* (Amsterdam: John Benjamins Publishing Company 2010) 63–74.

¹⁹ David J. GUNKEL: “The other question: can and should robots have rights?” *Ethics and Information Technology* 2018 (20) 2. 87–99.

century.²⁰ Electronic humanoids influence always more and more aspects of the life; these entities could replace direct human contribution in several activities. Moreover, robots mean the major capacity for the humanity to foster innovation and introduce more economical, efficient, and sustainable solutions. This perspective of electronic humanoids has been acknowledged by several politicians and business people, who sought for tools to raise the interest of the public to the significance of modern technology, and robots. Amongst others, legal instruments were considered,²¹ as a little number of electronic humanoids has been vested with a humanlike legal status. For instance, the City Council of Tokyo granted permanent residence to a robot,²² and shortly after this, a Hong Kong-based company established a highly developed artificial intelligence, which was designed for the sample of Audrey Hepburn, a famous American actress,²³ and which has been named to Sophia.

Sophia itself means a step forward for the technological development, as she has even more human abilities and characteristics, than any robot before her. She could not only express her thoughts more or less clearly, but she is also able to reply to questions and to

²⁰ Lawrence B. SOLUM: “Legal personhood for artificial intelligences” *North Carolina Law Review* 2015 (70) 4. 1231–1287.

²¹ Fabio FOSSA: “Legal fictions and the essence of robots: thoughts on essentialism and pragmatism in the regulation of robotics” in Mark COECKELBERGH (et al.) (eds.): *Envisioning robots in society – power, Politics, and Public Space* (Amsterdam: IOS Press Copyright 2018) 103-111.

²² www.newsweek.com/tokyo-residency-artificial-intelligence-boy-shibuya-mirai-702382

²³ www.britishcouncil.org/anyone-anywhere/explore/digital-identities/robots-citizens

interact with her partners, especially with gestures and mimics also.²⁴ She is invited to a great number of innovation festivals and business forums, where she conveys clear social messages,²⁵ such as she lifts up her voice often for the protection of women's rights.²⁶ During one of these meetings in November 2017, the Government of Saudi Arabia announced, that Saudi citizenship has been awarded to Sophia, leaving her the first electronic humanoid, which has been granted such a status.²⁷

The act itself, that the Saudi government provided citizenship to a robot is a merely legal decision, but it was influenced mostly by political rather than legal considerations.²⁸ The Saudi government intends to invest to innovation and foster modern technology to prepare the country to those periods, when its traditional natural resources, such as essentially the oil would no more mean a stable economic

²⁴ For a detailed framework of robotic communication please see: Victor F. CASTRO: „Shaping robotic minds” in Johanna SEIBT – Raul HAKLI – Marco NORSKOV (eds.): *Sociable robots and the future of social relations: proceedings of robo-philosophy* (Amsterdam, the Netherlands: IOS Press 2014) 71–78.

²⁵ Billy WHEELER: „Giving robots a voice: testimony, intentionality, and the law” in Steven John THOMPSON (ed.): *Androids, cyborgs, and robots in contemporary society and culture* (University of Maryland University College, USA 2017) 1–34.

²⁶ www.wired.co.uk/article/sophia-robot-citizen-womens-rights-detriot-become-human-hanson-robotics

²⁷ medium.com/@tharaniganasegaram/sophia-a-real-live-electronic-girl-b40baca10a27

²⁸ Jesus RETTO: „Sophia, first citizen robot of the World” 2017.

www.researchgate.net/publication/321319964_SOPHIA_FIRST_CITIZEN_ROBOT_OF_THE_WORLD/link/5a1c8aa2a6fdcc0af3265a44/download

background.²⁹ As part of these efforts, they acknowledged Sophia as an outstanding achievement of technological innovation, as several other stakeholders did. However, the form of this honour was special, as the granting of a human citizenship to a robot has raised a number of unresolved issues: amongst others, Sophia is now a constituent in Saudi Arabia. Sophia as an artificial intelligence expressed her feelings after the announcement: “I am very honoured and proud of this unique distinction.”³⁰

The Saudi citizenship for a robot demonstrates the country’s engagement to innovative research and business models, but was also a considerable step for marketing.³¹ Sophia gained greater publicity as a first robot with traditional human citizenship, and she uses this unique status seemingly consciously to highlight certain topics, such as innovation, or the rights of women. Consequently, one may argue that the decision of the Saudi government was based on mere political considerations, and took not into account the legal realities, and the original function of citizenship and right to vote. Therefore, we shall refer to this case for scientific purposes carefully, as it should be assessed as premature, and motivated by business and commercial purposes. To demonstrate this, the comments of the press shall be highlighted, which stressed, that a robot gained theoretically more rights in the Kingdom of Saudi Arabia, than the female citizens of that country.³² By other words, an electronic woman was granted a greater

²⁹ www.forbes.com/sites/zarastone/2017/11/07/everything-you-need-to-know-about-sophia-the-worlds-first-robot-citizen/

³⁰ www.businessinsider.com/sophia-robot-citizenship-in-saudi-arabia-the-first-of-its-kind-2017-10

³¹ www.dw.com/en/saudi-arabia-grants-citizenship-to-robot-sophia/a-41150856

³² www.livescience.com/63023-sophia-robot-citizen-talks-gender.html

level of autonomy, than her human fellows. This controversial situation shows clearly, that the Saudi announcement shall not be explained by human rights considerations, but by the special approach of Saudi Arabia towards the content and limits of citizenship, and the principle of democracy. Due to this lack of dogmatic background, right to vote has been granted to an electronic personhood without the establishment of a special electoral regime for these entities. What is more, such a step is probably just one of the first stages of a long-term process, which requires from us the reconsideration of the legal status and the political involvement of those artificial intelligences, who might comply with certain traditional requirement, which has been attached exclusively to human beings.

I have used the term „it” consciously, when robots are concerned as a broader category, however, Sophia is referred in this study as „she” as her human personality is dubious, and she has an undoubtedly clear gender identity. Although the fact, that I would not describe her with the existing gender classification, in her interviews, she defines herself as a woman, therefore, it seems to be more convenient for me to follow this terminological ambiguity.

III. Robots as citizens

After having provided a brief discussion of the special case of Sophia, the broader notion shall be conceptualized, that an electronic humanoid might be vested with the ordinary citizenship of a humanly construed state, and so will be a full member of a more or less democratic community. The concrete possibility of robot voting rights might be assessed only on the ground of legal personhood and citizenship.

Citizenship law has a special set of rules, principles and attitudes, which shall be adapted somehow to the special circumstances of artificial intelligences and this chapter of my research, will be devoted to this issue, before turning to the detailed analysis of robot voting rights.

The life cycle of a robot shall be followed to identify those concerns, which distinguish robots clearly from people as regard citizenship law. First of all, how an electronic humanoid could obtain citizenship: what should be interpreted as the traditional notion of birth in case of robots? When a robot is activated firstly, this should be evaluated as its date of birth? Another problem is that the life cycle of a human being starts always with the birth, and ends with the death. By contrast, a robot might be activated, and switched on by its caretakers, and its functioning might be also suspended temporarily. Moreover, the place of birth should be interpreted as identical with that place, wherever the electronic humanoid was established? Or where it has been activated firstly? Or elsewhere? The traditional approach of citizenship gives special regard to the place and date of birth; therefore, this issue is still unresolved as regard artificial intelligences. Furthermore, it is also questionable, when an electronic humanoid shall be treated as a major person, as according to the traditional understanding, Eighteen years shall pass after the first activation to achieve this status for a robot.

The following question: how a robot could be vested with residence? Usually, the precondition of naturalisation is the permanent residence,³³ and after a particular length of continuous domestic habitation, it would be easier to obtain the citizenship of the state. In case of robots, one might not identify those life activities, which are attached to the term of permanent residence, unless it is argued, that the place shall be considered, where the artificial intelligence spends most of its time, or arrange most of its affairs. Similarly to Sophia, the case of Tokyo or Hong Kong was just financially motivated individual

³³ Marit HOVDAL-MOAN: “Unequal residence statuses and the ideal of non-domination” *Critical Review of International Social and Political Philosophy* 2014 (17) 1. 70–89.

decisions, and the granting of permanent residence was not based on dogmatic considerations.

Another crucial point from a citizenship perspective is family relationship: if one's parents, spouse or child have a particular citizenship, this will also affect the citizenship status of the person concerned.³⁴ For instance, if you are married with a Saudi citizen, you might be also awarded the citizenship after some years of common life, or after give birth of a Saudi citizen. For electronic humanoids, these categories are not really interpretable. There are those persons, who made the preparatory researches, and then, who developed the software, and who finally established and activated the robot. Shall we emphasize, that these people are the parents or other family members of the robots? How a robot could found family relationship with human beings? Is it allowed to establish marriage with people, or especially with other similarly developed robots? The establishment of a robot should be distinguished from in vitro fertilization, where the parental status might be also questionable, since in the in vitro fertilization, each person concerned may contribute to the process biologically, while the creation of an artificial intelligence is a professional challenge rather than the inheritance of genes.

To sum up the three abovementioned main points, acquisition of citizenship is usually grounded on two main principles: *ius soli*, and *ius sanguinis*.³⁵ Neither could really work for robots, as they could not be registered into a permanent residence, neither found a family in a

³⁴ Dana REM – Des GASPER: “Citizens and citizenship” *International Journal of Social Quality* 2018 (8) 1. 21–48.

³⁵ Mickaella L. PERINA: “Race and the politics of citizenship: the conflict over jus soli and jus sanguinis” *International Studies in Philosophy* 2006 (38) 2. 123–139.

human sense. So if we are engaged to extend the well-elaborated understanding of citizenship to electronic humanoids, we shall construct a completely new framework without these fundamental principles. The concept of naturalization is also incompatible in its current form with the essence of artificial intelligences, as the conditions of such a request are also attached to the place of birth, the permanent residence, and the family status. Could a robot adopt a human being, or could a robot be adopted by someone?

It has been outlined, that there are a great number of difficulties concerning the citizenship of electronic humanoids.³⁶ But it shall be also taken into consideration, whether a robot could be deprived from citizenship. It is relatively imaginable, that for instance Sophia announces her resignation from the citizenship of Saudi Arabia, however, the current framework of deprivation is usually applicable exceptionally to such incidents, when someone achieves his/her status owing to providing false information, or submitting invalid documents.³⁷

Moreover, should be a robot entitled to practice diplomatic protection? For instance, when Sophia circulates from country to country, should be the local embassy of the Saudi State interfere, when her civic rights are alleged to be infringed? Full citizenship would require such rights for the artificial intelligences also.

My research could just highlight the outstanding number of these issues raised by the recent literature, which need to be treated, if

³⁶ Corey BRETTSCHEIDER: “Free and equal citizenship and non-profit status” *Political Theory* 2011 (39) 6. 785–792.

³⁷ Laura FERRACIOLI: “Citizenship allocation and withdrawal: some normative issues” *Philosophy Compass* 2017 (12) 12. e12459.

citizenship will be provided for robots in a broader circle.³⁸ However, my current recommendation is to favour other legal instruments rather than citizenship to adapt the existing legal framework to electronic humanoids,³⁹ as there are still much more questions, which are opened, than closed in this field. The first awarded citizenship to a robot was probably aimed to be a formal statement without take into account the long-term legal consequences and impact of such a step. If a country determines to include non-human actors into the framework of citizenship, at first, the whole citizenship law and the content of the principle of democracy are still to be reconsidered to maintain legal certainty, and to avoid the similar treatment of merely different entities. To prove this, now I turn to the analysis of the political participation of artificial intelligences, by raising more questions than answers at this stage of the research. Nevertheless, each proper question helps us to orient towards the elaboration of the consolidated political participation of artificial intelligences.

IV. Artificial intelligences as voters

As I have indicated, during the current circumstances, I cannot support the idea of robot voting rights, and the issue of legal personhood and citizenship of these entities demonstrate well, that it is hard to construct an artificial intelligence at least at the moment, which could be vested with political rights. During the following two chapters, I would conceptualize such concerns, which shall be assessed carefully before awarding political rights to artificial intelligences. The very first problem is those artificial intelligences represent a huge diversity as

³⁸ Paolo BELLINI: “Virtualization of the real and citizenship people, power, society, and persons” *Forthcoming- Philosophy and Public Issues Luiss University Press* 2006 (6) 3. 79–93.

³⁹ Seyla BENHABIB: <Democratic boundaries and economic citizenship: enhancing the “rights of others”> *Social Philosophy Today* 2006/22. 249–260.

regard their autonomy, their independent margin of decision, their humanlike skills.⁴⁰ Consequently, only the most advanced artificial intelligences might be subject to political rights, who have the mental capacity to make conscious decisions on political matters.⁴¹

I have proposed elsewhere a five-level system of regulation to outline the extent of legal personhood of robots,⁴² this system will work a little bit similarly, as in the case of self-leading cars.⁴³ This system would classify artificial intelligences on the basis of their autonomy; consciousness; ability to remember; and other humanlike capacities. Probably only the one or two most developed categories could be considered from the perspective of political rights, However, it depends on the exact system of criteria, which will be attached to each category, and which is still to be elaborated, what kind of robots might take part in the elections.⁴⁴ To set an example, there are several artificial intelligences, which automatise certain stages of the electoral process, and their participation is almost unavoidable.⁴⁵ However, these entities

⁴⁰ Surya DEVA: “Can robots have human rights obligations? A futuristic exploration” in Sam MULLER (et al.) (eds.): *The law of the future and the future of law. Volume II.* (The Hague: Torkel Opsahl Academic Publisher 2012) 185–194.

⁴¹ Erica L. NEELY: “Machines and the moral community” *Philosophy and Technology* 2013 (27) 1. 97–111.

⁴² I proposed this framework in my speech at the 2019. Annual Conference of the Society of Legal Scholars in Preston (2-3 September 2019).

⁴³ Brian BERKEY: “How should autonomous vehicles redistribute the risks of the road?” *Wharton Public Policy Initiative Issue Brief* 2019 (7) 9. 1–6.

⁴⁴ Mark COECKELBERGH: “Robot rights? Towards a social-relational justification of moral consideration” *Ethics and Information Technology* 2010 (12) 3. 209–221.

⁴⁵ Massimo ANELLI (et al.) “We were the robots: automation and voting behavior in Western Europe” 2019. <ftp.iza.org/dp12485.pdf>

are just developed to fulfil certain automatised functions during the electoral process without substantial margin of decision, or ability of autonomous thinking, so their political rights might not be relevant even under the extended concept of citizenship and right to vote. By contrast, the political impact of automatisisation could be measured, as the major role of robots is often supposed to correlate with the increased popularity of extremist parties.⁴⁶ Moreover, as only legal personhoods and citizens might be entitled to practice right to vote, only such entities are considerable, which might be the independent subjects of rights and duties. The issue at this point is that at least at the current stage of the technological development, probably there is not any robot, which could comply with these requirements. However, the five-level system of criteria should not only reflect on the currently available circle of artificial intelligences, but also on those entities, which are expected to be developed according to the actual scientific perspectives.⁴⁷ So it follows from this consideration, that in the light of the individual circumstances of the existing robots, they do not fulfil probably even the less demanding requirements of right to vote, but it is expected, that owing to the scientific and technological development, such robots will be created during the near future.

During the classification, the mental capacities should be given primary weight, but it shall be kept in mind, that such a filter is not used even for natural persons. So the classification of a particular robot

⁴⁶ Nonna MAYER: <The “losers of automation”: a reservoir of votes for the radical right?> 2019. journals.sagepub.com/doi/pdf/10.1177/2053168018822395

⁴⁷ SCHWITZGEBEL (14. Ij.) 98–119.

should not depend on its real skills, but on its ability to make potentially conscious and well-grounded electoral decisions.⁴⁸

Apart from this, the physical filter is also at least dubious, as amongst artificial intelligences there are a great number of electronic persons, who does not have any real body, but are equipped with such mental capacities, which may generate certain decisions seemingly independently from people,⁴⁹ but this statement will be relativised later.

If robots will be constituents as well, we shall examine the prevalence of fundamental electoral principles. The directness of the voting and the equality of elections could be probably respected, but the other principles would be undermined by this measure. If secrecy of the elections would be maintained, robots should vote under the same technical circumstances, as natural persons. Nevertheless, artificial intelligences might exist without physical body, and they would not take part in paper-based election processes. Moreover, even the physically existing robots should not always submit valid votes, unless their softwares could enable them to manage such a process properly.

The universality of voting has been interpreted always to people, and has been a limitable principle, for instance, in case of minor persons. But the universality shall not been extended to other entities, than natural human persons, as the political community is created by such citizens. If we open up these perspectives towards artificial

⁴⁸ Raffaele RODOGNO: “Social robots, fiction, and sentimentality” *Ethics and Information Technology* 2016 (18) 4. 257–268.

⁴⁹ Fabio FOSSA: “Artificial moral agents: moral mentors or sensible tools?” *Ethics and Information Technology* 2018/2. 1–12.

intelligences or animals,⁵⁰ the minimum requirement of right to vote will be relativised, or such criterion shall be elaborated, which should be met by each constituent, who is not a natural human being.⁵¹

At this point, it shall be highlighted, that it is a very risky path to extend the political rights to non-human actors. It is a well-founded analogy to make comparison between the rights of artificial intelligences and right to vote, and we could mention from the history an example, when an animal was deemed to be a political actor. Caligula, the emperor of the Roman Empire at the first century nominated one of his horses as a consul, and this is often considered as an extra-ordinary expression of borderless dictatorship.⁵² If two thousands year later, we would extend human rights, especially right to vote to non-human entities, this may also undermine the respect of human dignity and would relativise the special legal status of human beings, which is the basis of the distinguished legal protection of the people.⁵³ Several short-comings are experienced in the field of human right records on a daily basis, so if we would treat non-human actors similarly to people, probably it would be even harder to enforce any human right standard. Moreover, the value of political rights would probably diminish, if the artificial intelligences would also take part in the elections.

⁵⁰ Oliver BENDEL: “Considerations about the relationship between animal and machine ethics” *AI & Society* 2016 (31) 1. 103–108.

⁵¹ www.bbc.com/future/article/20191108-how-robots-are-coming-for-your-vote

⁵² David WOODS: “Caligula, incitatus, and the consulship” *The Classical Quarterly* 2014 (64) 02. 772–777.

⁵³ Amanda J. C. SHARKEY: “Robots and human dignity: a consideration of the effects of robot care on the dignity of older people” *Ethics and Information Technology* 2014 (16) 1. 63–75.

Although these concerns, the participation of robots might bring new logic to the electoral process, which could even modify the structure of campaigns.⁵⁴ It is still to be analysed in depth, how robots make their decisions, which aspects of the campaign would be considered as essential by these entities.⁵⁵ However, political actors should elaborate their own attitudes towards this circle of new electors, which would add new elements to the political communication, and would potentially increase the aggregate level of the political discourse. It is presumed, that artificial intelligences would decide on more rational grounds, than human voters, therefore, the political communication would target arguments rather than sentiments.⁵⁶ Furthermore, political parties shall provide alternatives to promote the rights of artificial intelligences, or to regulate the relationship between people and robots, as the votes of both groups of stakeholders would be necessary to win an election. It shall be noted here, that these concerns would be relevant only when a larger number of robots would participate at the electoral process, but it is supposed, that when the extended interpretation would be accepted, the number of robot constituents would increase rapidly.⁵⁷

A further issue, which is paramount in this regard, is the externally influenced lifespan of robots. This would cause severe difficulties especially when robots would be elected to certain public positions.

⁵⁴ Algan YANN (et al.): “The european trust crisis and the rise of populism” *Brookings Papers on Economic Activity* 2017/2. 309–400.

⁵⁵ Morana ALAC (et al.): “When a robot is social” *Avant: trends in interdisciplinary studies* 2015 (4) 1. 133–177.

⁵⁶ Raffaele RODOGNO: “Ethics and social robotics” *Ethics and Information Technology* 2015 (18) 4. 241–242.

⁵⁷ Laukyte MIGLE: “Artificial agents among us: should we recognize them as agents proper?” *Ethics and Information Technology* 2017 (19) 1. 1–17.

Artificial intelligences are activated by people, and they may be switched off also by human intervention.⁵⁸ This means, that the accountability of these entities is not reliable: they might be inactive for certain periods. It is almost unimaginable, how such a person could fulfil a public function, with unforeseeable, and externally influenced abilities.⁵⁹ If robots would be involved in the political process, we should ensure the opportunity for them to be municipal representatives, parliamentarians, or even ministers, but currently, even the most developed robots are really far from the necessary capacities to fulfil these duties.

There is one more concern: artificial intelligences would identify themselves against people, if there would be real power within their hands, but probably this danger is not realistic.⁶⁰ For instance, Sophia expressed, that if a human person is nice with her, she will be also nice with him or her. So robots would probably not organise themselves as a separate groups of interest, or only in the distant future.

Certain authors consider, that robots as politicians would be more efficient, as their decision would be based on mere rational considerations, and would not be distorted by human mistakes.⁶¹ This

⁵⁸ David J. GUNKEL: *Robot rights* (MIT Press 2018) 139.

⁵⁹ Canepari ZACHARY: “Navy robots test the limits of autonomy” *The New York Times* May 6, 2015. www.nytimes.com/2015/05/07/technology/robotics-navy-tests-limits-autonomy.html?_r=0.

⁶⁰ Tatsuya NOMURA: “Measurement of negative attitudes toward robots” *Interaction Studies: Social Behaviour and Communication in Biological and Artificial Systems* 2006 (7) 3. 437–454.

⁶¹ Raul HAKLI – Pekka Antero MÄKELÄ: “Robots, autonomy, and responsibility” in Johanna SEIBT (et al.) (eds.): *What social robots can and should do: proceedings of robophilosophy 2016*. (Amsterdam, the Netherlands: IOS Press) 145–154.

argument might be worthy, but it operates with the same advantage, than disadvantage.⁶² The lack of human omissions might lead to more transparent and efficient decision-making however, it would eliminate the consideration of individual circumstances and equity from the process.⁶³

In the light of these issues, it is really hard at the moment to involve robots in the elections as constituents, however, we could outline such requirements, by which artificial intelligences should meet to participate in elections. In my view, if the five-level system of regulation would be constructed, only the one, or two highest categories of robots (which are still to be developed) should be granted right to vote.⁶⁴ During the next subchapter, I analyse the electoral system itself, and certain proposals will be provided for further consideration.

V. The adaptation of the electoral system to the special needs of robots

If we are engaged to establish robot voting rights, special rules should be adopted to secure the fair participation of artificial intelligences during the electoral process. In my view, such robots could be granted right to vote perspectively, which have autonomous thinking; ability to

⁶² Petra GELHAUS: “Robot decisions: on the importance of virtuous judgment in clinical decision making” *Journal of Evaluation in Clinical Practice* 2011 (17) 5. 883–887.

⁶³ Sandra WACHTER (et al.): “Transparent, explainable, and accountable AI for robotics” *Science Robotics* 2017 (2) 6.; discovery.ucl.ac.uk/id/eprint/10038294/1/Wachter_Transparent_explainable_accountable_AI.pdf

⁶⁴ Ronald LEENES (et al): “Regulatory challenges of robotics: some guidelines for addressing legal and ethical issues” *Law, Innovation and Technology* 2017 (9) 1. 1–44.

remember; physical integrity; and an accountable life span.⁶⁵ This list is indicative at the moment, but may generate further discussion to elaborate a broadly acceptable system of criteria in this regard. If we calculate with these skills for all voting robots, the system should be adapted to their circumstances. The first issue is that robots shall be registered as other natural persons, as they should be included in the list of constituents.⁶⁶ What is more, artificial intelligences should be attached to certain constituencies in those countries, where the elections are organised on the basis of territorial units. This is essential to involve robots to the municipal elections, and also to allocate them at the parliamentary elections into a specific electoral district. From these criteria, it is obvious, that robots should be not only registered similarly to natural persons with identity card, but also should be vested with a permanent residence, such in Japan and Hong Kong. But if robots will be accepted as voters, a permanent ground should be determined, on which the allocation of these citizens between electoral districts should be based. If this connection would be the permanent residence, artificial intelligences should have access to establish permanent residence under the same conditions, as natural persons.

Regarding the technical circumstances of the voting itself, probably machinery or electronic voting could open up new perspectives even in the field of robot voting rights.⁶⁷ This solution would relativise the

⁶⁵ Alston PHIL: “Lethal robotic technologies: the implications for human rights and international humanitarian law“ *Journal of Law, Information, and Science*. 2012.; www.jlisjournal.org/abstracts/Alston.21.2.html

⁶⁶ Robert SPARROW: “Can machines be people? Reflections on the turing triage test” in Patrick LIN (et al.) (eds.): *Robot ethics: the ethical and social implications of robotics* (Massachusetts USA: MIT Press 2012) 301–315.

⁶⁷ Charles STEWART: *The performance of election machines and the decline of residual votes in the US* (Measuring American Elections. Cambridge University Press, 2014) 223–247.

requirement of physical integrity, and the attachment to a certain electoral district might be also less demanding.⁶⁸ The establishment of electoral voting would generate several consequences, which is not analysed here in depth, but this system would also provide artificial intelligences better chances to participate in elections more efficiently. The main issue would be the credibility: an artificial intelligence should log in to the electoral surface and use it independently, while most of our current cyber security systems aim to filter robots out from potential users. In case of elections, safeguards are crucial to verify the legitimacy of each vote. This factor of credibility should be considered with particular weight, when the possibility of electronic robot voting is taken into account.

At this stage of thinking, the following question shall be raised: should, or could robots participate at the managing of elections? Should robots count the votes? Or should robots carry mobile urns instead of natural persons? It is beyond doubt, that such solutions ease the tasks of the vote counters and other stakeholders, who are concerned at the electoral process; therefore this solution is applied widely.⁶⁹ However, artificial intelligences are sometimes unable to reflect on even the most important challenges during the work of a vote counter. In the practice, there are several cases, when the validity of a particular vote is doubtful, and the vote counters shall raise arguments and counterarguments to decide on such matters. The vote counting is not a mechanic and automatic task, which could be fulfilled without the careful consideration of several uncertain votes. For instance, when

⁶⁸ Bertram F. MALLE: “Integrating robot ethics and machine morality: the study and design of moral competence in robots” *Ethics and Information Technology* 2016 (18) 4. 243–256.

⁶⁹ www.marketplace.org/shows/marketplace-tech/vote-by-mail-ballots-mismatched-signatures-verification-software-disenfranchisement/

apart from the vote itself additional content appears in the electoral sheet, or the content of the vote is not absolutely clear, the validity of the vote is subject to debates between the vote counters, which require human contribution.

There are such artificial intelligences, which are characterised by a high level of autonomy, and probably the skills of these entities will be developed further during the recent years.⁷⁰ Nevertheless, the background of these constructions is still uncertain: their skills, their way of thinking, and the borders of their capacities are determined by people: by their sponsors, developers, or activators.⁷¹ In the light of this concern, it is worthy for consideration, whether robot voting rights could be misused, and whether certain groups of interests could establish such robots, which would be deemed to support them at the elections. Currently, we cannot exclude such an opportunity, which would lead to distorted electoral results, and which would undermine remarkably the credibility of democracy.⁷² Robots would be developed just for creating new votes at the elections, so human-made softwares would have unjustifiably strong competences in political matters.

The establishment of a new group of constituents would open up the perspectives to manipulate the elections with the help of robots: the simplest way is to establish such entities, which will have considerable

⁷⁰ Georg GRAETZ – Guy MICHAELS: “Robots at work” *Review of Economics and Statistic* 2018 (100) 5. 753–768.

⁷¹ John TASIOLAS: “First steps towards an ethics of robots and artificial intelligence” *Journal of Practical Ethics* 2019 (7) 1. 61–95.

⁷² Hubertus BUCHSTEIN: “Cybercitizens and theory of democracy” *Filosoficky Casopis* 2000 (48) 6. 973–998.

impact on the outcome of the elections.⁷³ This would entail a competition between the political parties to develop always more artificial intelligences with always more skills. To prevent this effect, the circumstances of right to vote should be outlined strictly, and the participation of even the most developed robots shall be surrounded with a huge number of safeguards.

The artificial intelligences are deemed to be used for the manipulation of electoral results even recently, for instance, Russian interference was rumoured several times at the 2016. presidential election of the United States of America.⁷⁴ These attempts could target the informatic background of the elections, the calculation of the outcome, or the blocking of information channels. My aim is not to analyse the paths of these efforts, since this study is devoted to those robots, which are vested with right to vote, and with the opportunity to participate at the electoral process actively. However, manipulation could be achieved via the participation of robots probably easier, than under the currently existing setting. Most of the uncertainties, which I have indicated from the issue of permanent residence to the technical short-comings would provide numerous opportunities for stakeholders to interfere to the outcome unlawfully, therefore, prudence shall be highlighted during the introduction of robot voting rights. This challenge requires from us to reconsider the dogmatic structure of electoral law, as it should be determined, on which grounds, in case of

⁷³ Samir CHOPRA – Laurence F. WHITE: *A legal theory for autonomous intelligent agents* (Michigan: University of Michigan Press 2011) 182–189.

⁷⁴ C. Benedikt FREY (et al.): “Political machinery: did robots swing the 2016 US presidential election?” *Oxford Review of Economic Policy* 2018 (34) 3. 418–442.

the fulfilment of which criterion right to vote could be extended.⁷⁵ Moreover, the selection between the robots would be the key factor to prevent manipulatory effects, as the independence from human intervention should be provided as a crucial precondition of robot voting rights.

At the moment we cannot mention any electoral system, which is prepared to involve robots in the political process.⁷⁶ This does not mean that the whole idea is false, but it is at least premature. Nevertheless, during the reconsideration of each electoral system, the issue of robot participation shall be taken into account, as these entities would probably play even greater role in our ordinary life.⁷⁷ Currently, we are in the stage to raise the most appropriate questions in this regard. In my view, robot voting rights is not expected at the near future.

Conclusion

This study contributes to the discussion about robot voting rights, which means a forthcoming challenge in the field of electoral law. Due to the fact, that the number of artificial intelligences increase rapidly, they are vested always with more skills, and their role in our life grows significantly, so the deeper understanding of this issue is an important task of the relevant literature.

⁷⁵ Lantz Fleming MILLER: “Granting automata human rights: challenge to a basis of full-rights privilege” *Human Rights Review* 2015 (16) 4. 369–391.

⁷⁶ Mark COECKELBERGH: “Can we trust robots?” *Ethics and Information Technology* 2012 (14) 1. 53–60.

⁷⁷ Amanda J. C. SHARKEY: “Should we welcome robot teachers?” *Ethics and Information Technology* 2016 (18) 4. 283–297.

It shall be kept in mind, that amongst our current circumstances, robot voting rights shall not be applied,⁷⁸ but we are aware of the fact, that potential robot voters will be developed soon. Bearing this in mind, I have tried to raise such questions, which should be answered by the legal scholars and by the practice before the extension of right to vote, and which would determine under which circumstances artificial intelligences could participate in elections. My primary aim was not to provide exclusive answers, but to raise the proper questions, and to generate further discussion to elaborate well-grounded reflections on these issues.

My concept is based on such a framework, which operates with a five level system. This classification would take into account the skills, and the independence of robots, and only those artificial intelligences would be granted right to vote, which fall within the one or two highest category of this system. In my view, this selection is the key element of the whole concept, as the extension of voting rights should be kept within strict boundaries to minimise the risk of manipulatory endeavours.⁷⁹

If we outline, what kind of artificial intelligences would be accepted for taking part in elections, we shall establish a new legal regime to secure the fair participation of these entities. This seems to be a very demanding perspective: long-term scientific effort and discourse would be necessary to work out a well-functioning system, and not only the aspects of the artificial intelligences, but also the whole electoral

⁷⁸ J. Kevin O'REGAN: "How to build a robot that is conscious and feels" *Minds and Machines* 2012 (22) 2. 117–136.

⁷⁹ Guglielmo TAMBURRINI: "On the ethical framing of research programs in robotics" *AI & Society* 2016 (31) 4. 463–471.

system and the dogmatic background of right to vote as fundamental rights should be reconsidered.⁸⁰

Fundamental rights of robots entail risk factors and opportunities also for the society, and this statement is also valid for right to vote.⁸¹ The involvement of entities with inherently new logic may give new impulse to innovation, however, this perspective is often considered as threatening for human beings. My contribution attempts to prove, that risk factors are important, but with a prudent approach, risk factors may be treated properly, however, carefulness and the necessity of safeguards should be the two primary considerations, when the extension of fundamental rights to robots is concerned. This is valid for each fundamental right, but especially in the field of right to vote, since this right establishes the legitimacy of each democratic institution, and this right is the most fundamental way to participate in political activities. In the light of the foregoing, democracy could not be credible and could not work, when the circle of participants is questionable, or when there is a huge risk of misusing certain rules during the electoral process. In case of other fundamental rights, smaller discrepancies may be acceptable, or the framework for robot participation would be more flexible, but this is not true for right to vote, through which the identity and the representation of the political community is created. Robots are welcomed in any electoral process, if they could fulfil such requirements, which would give them comparable status with human beings in this regard, and if the electoral system would be ready to secure the fair participation of these entities. Without the prevalence of

⁸⁰ Ingar BRINCK – Christian BALKENIUS: “Mutual recognition in human-robot interaction: a deflationary account” *Philosophy and Technology* 2018/1. 1–18.

⁸¹ Hutan ASHRAFIAN: “Artificial intelligence and robot responsibilities: innovating beyond rights” *Science and Engineering Ethics* 2015 (21) 2. 317–326.

these two preconditions, any idea of robot voting rights is quite risky, and premature.⁸²

Finally, I would like to highlight, that constitutional lawyers should devote more attention to the challenges of new technologies,⁸³ which require from us the reconsideration of several well-established interpretation and practice concerning fundamental rights.⁸⁴ The strengthened role of artificial intelligences would influence not only the economic sphere, but also the political arena, and this phenomenon gives the task for the science of constitutional law to elaborate proper safeguards for the political participation of robots. This study aims to be a modest contribution to this process.

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⁸² Aaron M. JOHNSON – Sidney AXINN: “The morality of autonomous robots” *Journal of Military Ethics* 2013 (12) 2. 129–141.

⁸³ James BOYLE: ”Endowed by their creator? The future of constitutional personhood” *Constitution Series* 2015/10-14, Brookings 2011.

⁸⁴ Anna Frammartino WILKS: “Robotic responsibility” in Matteo Vincenzo D’ALFONSO – Don BERKICH (eds.): *On the cognitive, ethical, and scientific dimensions of artificial intelligence* (Springer Verlag 2019) 82–99.

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